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SEQ ID NO: 7	M.....MQSM.....	GLITKVTATSQESTTRCVAK.....KLNKTSYIITERKGQG
SEQ ID NO: 2ALTPSLPVEGPVSGERLQRIR.....AVSDELKNKYSARITERKSQG	
SEQ ID NO: 4	.....MQSFLNPNPHSLLTPSPHSTRNSGRASLSTRASIAETPTEVKLNKYSRITERKSQG	.....
SEQ ID NO: 6	.....	.....
	1	60	
SEQ ID NO: 7	ASQAMIYATGFKKEDEKKPOVGVSQCMGNPFCNMLHIDLNNCQSOSTERAGKRAAGNT*	
SEQ ID NO: 2	ASQAVLYGVGLTDADLRKPOGVVSSWYEGRNTCNMLHLRAEAVRDGVREAGMVFERNT*	
SEQ ID NO: 4	ASQAVLYGVGLSEDDMAKPOGVVSSWYEGRNTCNMLHLRSEAVRDGVAAAGMVFERNT*	
SEQ ID NO: 6	120	
SEQ ID NO: 7	IGVSDGISMTCKGMRISLQSRELIADSFTETMAQHYDANISI*	
SEQ ID NO: 2	VGVDALISMTRGMCYSLQSRELIADSFTETVNAQWYDGNISI*	
SEQ ID NO: 4	VGVDALISMTRGMCYSLQSRELIADSFTETVNAQWYDGNISI*	
SEQ ID NO: 6	180	
SEQ ID NO: 7	NRPSIMVYGGTILPGHPTCGSSSKISRNIDIVSFQSYGEYIISROFTEEREDDVVEHACPG*	
SEQ ID NO: 2	NRPSIMIYGGTILPGHPTCGSSSKISRNIDIVSFQCYGEYVSGSITDEQRNVLRNSCPG*	
SEQ ID NO: 4	NRPSIMVYGGTILPGHPTCGSSSKISRNIDIVSFQCYGEYVSGSINDQRQNVRNS-2PG*	
SEQ ID NO: 6	181	

FIG. 2A

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FIG. 2B

PIRANGHQLQYLGSAPGGAVKTIKREGYLFFGGVPEGEESMITAISENANFGK.
PIRKTGHQIQLYGNAPGSAVAKITKREGLYFSSPALVPEGEESMITAISENANFGK.
PIRKTHAIQIQLYGNAPGSAVAKITKREGLYFSSPALVPEGEESMITAISENANFGK.
.....APEGSVAKITKREGLFFSGSPALVEDGEESMITAISENANFGK. 480

SEQ ID NO: 7
VWVIRGEPKGGPPMPEMTPSAGLIGKEVALTDGRFSGSGSHGVGHCPEAQ
SEQ ID NO: 12
VWVIRGEPKGGPPMPEMTPSAGLIGKEVALTDGRFSGSGSHGVGHCPEAQ
SEQ ID NO: 4
VWVIRGEPKGGPPMPEMTPSAGLIGKEVALTDGRFSGSGSHGVGHCPEAQ
wk5c12a_pro 481

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+ + + * *
SNGCVLDA
SRGCVTDE
SSGCVTDE
TLE
601 . . . . .
600 . . . . .

```

FIG. 2C

FIGURE 3A

SEQ ID NO: 20	MTKOTIRVEL.....AGPVRA
SEQ ID NO: 09	MEYAVLAAAPLVARNWLLSPPPL.....	.....
SEQ ID NO: 11	.....	.....
SEQ ID NO: 13	.....	.....
SEQ ID NO: 15	.....	.....
SEQ ID NO: 17	MEFIRLIYPICRSRHSSFLLSKLR.....	KQFPLTSQNVLEAASPLRP
SEQ ID NO: 19	MT.....ASYNT.....	.....
	1	120
60		
SEQ ID NO: 20	.....TSTKKPKPDENQNSFGGRVFTDHHMFVMDYAAADRQWYDPRIPQPLSMSDPT	.....
SEQ ID NO: 09	CRAALASN.YTQTSSETVDLWENJFGIVQTDYMYTAKCGTIDNGFSEEMVPPFPPTIALPS	.....
SEQ ID NO: 11	.....	.....
SEQ ID NO: 13	.....	.....
SEQ ID NO: 15	.....	.....
SEQ ID NO: 17	.....REGILSR.....	.....VGNIELSPS
SEQ ID NO: 19	SATLSSDPYSETELADIEWDNQFGQPTDYMIMKCTRGGTFSKGELORFENIENLPS	.....
	.....GTPLDVFEDWETLGFLQVLTDFMYIMKCSSDGVFTKGELVPYGPIELNPA	.....
	1	121
SEQ ID NO: 20	.....AMVYHYGQTVFEGLKAY..VSEDDHVLFRPEKMERLNQSNDRLCIPQIDEEQVLEGK	.....
SEQ ID NO: 09	SGVLNYQGQFLFEGLKAY..KTDSILLFRPEENAEERMRTGARM.....	.....
SEQ ID NO: 11	.....	.....
SEQ ID NO: 13	.....	.....
SEQ ID NO: 15	SGVINTQGQFLFEGLKAYAANQCSYMLTRPEENAEERMHQGAEERMCMPSPSVTEQFVHAYK	.....
SEQ ID NO: 17	AGVLNYQGQFLFEGLKAYR..KQDSILLFRPEENIIRMOIGAERMCMSPTMEOFVEAVK	.....
SEQ ID NO: 19	AAVLNYQGQFLFEGLKAYR..KEDGSVVVFRPKENALRMRIGADRLCMFAPSVTEQFLSAVK
	1	122

FIG. 3A

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SEQ	ID	NO:15	LEIYRDGVVATPATVGTILPGITRSVIELARDRGY2VEERLVSIDDLVGA.....	DEV
SEQ	ID	NO:17	ILMVRDNVISTPLTGTILPGITRSIIIEAQNLGIQVEERLIADELLDA.....	DEV
SEQ	ID	NO:19	301	360

```

  SEQ ID NO:20 ALTESK
  SEQ ID NO:09 .....
  SEQ ID NO:11 ....Q....
  SEQ ID NO:13 ....XIN....K
  SEQ ID NO:15 ....AID....R
  SEQ ID NO:17 .....
  SEQ ID NO:19 .....

```

FIG. 3C

FIG. 4A

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    .SEQ ID NO:29 .DE
    .SEQ ID NO:22 .K.
    .SEQ ID NO:24 ...
    .SEQ ID NO:26 VE.
    .SEQ ID NO:28 ...

```

FIG. 4B

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SLVGSEARRGYQEGIALDNVGYISEAGENLFEVKDGVLLTPETSSAIPGTRDALL
NILAKIEGNAQEDAIMLDKGFTSETNATNEMVKGIVLTPH. ADYCPGTRATV
NILAKIEGNAQEDAIMLDQGFSETNATNEMVKGIVLTPH. ADYCPGTRATV
181

FIG. 5A

Docket No: 88-1126
 Title: Plant Branched Chain Amino Acid Biosynthetic Enzymes
 Inventor: Saverio Carl Falco
 Appl. No.: 09/173,300
 E.I. DuPont de Nemours

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***** KLAKELGIEVREQVLSRESILYLADEVMSGTAAEITPVSVDGIVQVGEGRCGVTKRIOQ
 DLVVKRENFLHERRSLSEFFRAADEVWTTGTMGEITPVNMIDGREIGDGKIGGVTRQLOK
 DLVVKRENFLHERRSLSEFFRAADEVWTTGTMGEITPVNMIDGREIGDGKIGGVTRQLOK
 300

***** 241

 SEQ ID NO: 34 AFFEGIETGETEDKNGWILDQVNO * *
 SEQ ID NO: 31 AYKLTAGQGVPIPG..VAEV.
 SEQ ID NO: 33 AYKLTAGLGVTPR..NAAE.
 322

 SEQ ID NO: 34
 SEQ ID NO: 31
 SEQ ID NO: 33
 301

FIG. 5B

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FIGURE 654/2007

SEQ	ID NO: 45	MGMTTIVEKILAKASSGKEVSPDIIVANIDVAMVHDITGPLTVNLK, EYGGIE, KVWNPE	60
SEQ	ID NO: 36	.....AREPENVVWDIDVLMTHDVCGGTIGIFKREFGEAKVWDR	
SEQ	ID NO: 38	.....EKILARASERAALERGENVVWDVOLMTHDVCGPAGAFIDFKKEFGEARVWDR	
SEQ	ID NO: 40	.....
SEQ	ID NO: 42	.....
SEQ	ID NO: 44	.....
		1	
SEQ	ID NO: 45	KIVILFDHQVPAIDSIAENHILMRKEYKEQGKRYFYDIRE.....GIVCHQVL	61
SEQ	ID NO: 36	KVVIIPDHYIIFTSDERANRNVIDILRDFCIEQNKYFYDIDKLSDFRANPDYKGVCHIALA	
SEQ	ID NO: 38	KLVVIPDHYIIFTSDGRAKRNVDLIRDCAEQNIVKFYDIDKLSDFRANPDYKGVCHIALA	
SEQ	ID NO: 40	.....
SEQ	ID NO: 42	.....
SEQ	ID NO: 44	.....
		1	
SEQ	ID NO: 45	EKGHVAPEGVYVGADSHTCGAGFAFATGIGSTIMAHYFATGKLWKFVPTTYFNITGD	62
SEQ	ID NO: 36	QEGRHRPGEVLLGTDSHTCNAGAQFQATGIGNTDAGFVNGTGGKALLKVPPTIREVLGE	
SEQ	ID NO: 38	QEGRHRPGEVLLGTDSHTCNAGAQFQATGIGNTDAGFVNGTGGKALLKVPPTIREVLGE	
SEQ	ID NO: 40	QEGRHRPGEVLLGTDSHTCNAGAQFQATGIGNTDAGFVNGTGGKALLKVPPTIREVLGE	
SEQ	ID NO: 42	
SEQ	ID NO: 44	
		1	

120

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120

FIG. 6A

TOO227-0541/2000T

00-140
Title: Plant Branched Chain Amino Acid Biosynthetic Enzymes
Inventor: Saverio Carl Falco
Appl. No.: 09/173,300
E.I. DuPont de Nemours

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SEQ ID NO:45 LQPYVTSKDVILSILGFGVGDATYKACQEGGETVKMSMIAISRMTMTNNAIEMGGKTKGII
SEQ ID NO:36 MPPYLAKDILQIIGEISVGATYKMSMFVGSTVSELMTMEERMTLCNNVVEAGGKNGVY
SEQ ID NO:38 MPPYLAKDILQIIGEISVGATYKMSMFVGSTVSELMTMEERMTLCNNVVEAGGKNGVY
SEQ ID NO:40 MPPYLAKDILQIIGEISVGATYKMSMFVGSTVSELMTMEERMTLCNNVVEAGGKNGVY
SEQ ID NO:42
SEQ ID NO:44
181 240

SEQ ID NO:45 EPDEKTIQYKEAMKKHGTERPFEVTKGDEDAAFEAYYEADKIEPKVACPHVNVDNKQ
SEQ ID NO:36 PADETTFKYLEGK...
SEQ ID NO:38 PADETTFKYLEGK...
SEQ ID NO:40
SEQ ID NO:42
SEQ ID NO:44
181 241

SEQ ID NO:45 AREVAGKPLDQVEIGCTNGRLDLMAIKIEKGIGIADDVRRVVTPASREEVYKALKE
SEQ ID NO:36 ARECKDVKIDRVYIGCTGGKTEDFLAAKFLA. SGKKVKVPTFLVATQKVMMDVYSL
SEQ ID NO:38 ARECKDVKIDRVYIGCTGGKTEDFLAAKFLA. SGKKVKVPTFLVATQKVMMDVYSL
SEQ ID NO:40
SEQ ID NO:42 ARECKDVKIDRVYIGCTGGKTEDFLAAKFLA. SGKKVKVPTFLVATQKVMMDVYSL
SEQ ID NO:44
301 360

FIG. 6B

YODER - 05472007

SEQ ID NO:45 GI.....IEKFLYGC-VVYNPSCSACMGS..LYGVLGPGEVCVSNTNRFGRQC
SEQ ID NO:36 PVPGSGGKTCRQI FERAGCDT PASPNCACLGGRDTYARMNE PTCVUSTINRFERGIMG
SEQ ID NO:38 PVPGSGGKTCRQI FERAGCDT PASPNCACLGGRDTYARMNE PTCVUSTINRFERGIMG
SEQ ID NO:40

SEQ ID NO:42 PVPGSGGKTCRQI FERAGCDT PASPNCACLGGRDTYARMNE PTCVUSTINRFERGIMG
SEQ ID NO:44 PVPGSGGKTCRQI FERAGCDT PASPNCACLGGRDTYARMNE PTCVUSTINRFERGIMG
361 420

SEQ ID NO:45 SLEREIYLASPIITAACAVKGELVDPDLM
SEQ ID NO:36 HKEGQIYLASPYTAASASALTGYVTDPDFLM
SEQ ID NO:38 HKEGQIYLASPYTAASASALTGYVTDPDFLM
SEQ ID NO:40

SEQ ID NO:42 HKEGQIYLASPYTAASASALTGYVTDPDFEL
SEQ ID NO:44 HKEGQIYLASPYTAASASALTGYVTDPDFLS
421 452

FIG. 6C

TODAY'S TALENT

100-1160
Title: Plant Branched Chain Amino Acid Biosynthetic Enzymes
Inventor: Severio Carl Falco
App. No.: 09/173,380
E.I. DuPont de Nemours

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FIG. 7A

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FIG. 7B